

AMENDMENTS TO THE CLAIMS

1 1. (Currently Amended) A computer-implemented method for generating and using a
2 mapping scheme, the method comprising:
3 receiving commands from a user, wherein said commands establish a mapping
4 between one or more attributes of an XML document and one or more
5 attributes of a relational database;
6 based on said commands, automatically generating a mapping scheme that represents
7 said mapping, wherein said mapping scheme includes at least one of:
8 multiple attributes of said XML document mapped to a single attribute of said
9 relational database; and
10 multiple attributes of said relational database mapped to a single attribute of
11 said XML document; and
12 using said mapping scheme to perform a single transformation that moves said XML
13 document directly into said relational database without ~~materializing the entire~~
14 ~~XML document~~ creating and storing any representation of said XML
15 document separate from said XML document and said relational database
16 during said transformation;
17 wherein the one or more attributes of said relational database correspond to one or
18 more columns in one or more tables in said relational database.

1 2-3. (Canceled)

1 4. (Previously Presented) The method of claim 1, wherein said mapping scheme
2 further includes instructions on how to collapse a number of attributes of said XML
3 document into a smaller number of attributes of said relational database.

1 5. (Previously Presented) The method of claim 1, wherein said mapping scheme
2 further includes instructions on how to expand a number of attributes of said XML
3 document to a greater number of attributes of said relational database.

1 6. (Previously Presented) The method of claim 1, wherein:
2 the step of receiving commands from a user includes receiving user input that
3 specifies a condition, and an action associated with the condition; and
4 the method further comprises the steps of:
5 performing an operation that includes converting data, based on said mapping
6 scheme, from said XML document to a format associated with said
7 relational database;
8 during performance of said operation, performing the steps of:
9 determining whether the condition is satisfied; and
10 if the condition is satisfied, then performing said action.

1 7. (Previously Presented) The method of claim 1, wherein:
2 the step of receiving commands from a user includes receiving user input that
3 specifies a specific set of instructions; and
4 the method further comprises the steps of:
5 performing an operation that includes converting data, based on said mapping
6 scheme, from said XML document to a format associated with said
7 relational database; and
8 during performance of said operation, executing the specific set of instructions
9 to affect said operation.

1 8. (Previously Presented) The method of claim 1, wherein:
2 the step of receiving commands from a user includes receiving user input that
3 declares a variable to which values can be assigned; and
4 the method further comprises the steps of:
5 performing an operation that includes converting data, based on said mapping
6 scheme, from said XML document to a format associated with said
7 relational database; and
8 during performance of said operation, using said variable.

1 9. (Previously Presented) The method of claim 1, wherein:
2 the step of receiving commands from a user includes receiving user input that
3 specifies a precompiled routine; and
4 the method further comprises the steps of:
5 performing an operation that includes converting data, based on said mapping
6 scheme, from said XML document to a format associated with said
7 relational database; and
8 during performance of said operation, calling said precompiled routine to
9 affect said operation.

1 10. (Previously Presented) The method of claim 1, further comprising:
2 reading source data definition that includes information about said one or more
3 attributes of said XML document;
4 reading target data definition that includes information about said one or more
5 attributes of said relational database; and
6 based on said source data definition and said target data definition, presenting to said
7 user an interface that identifies said one or more attributes of said XML
8 document and said one or more attributes of said relational database;
9 wherein said step of receiving commands from said user is performed by receiving
10 said commands through said interface.

1 11. (Previously Presented) The method of claim 1, wherein said mapping scheme
2 includes instructions on how to collapse a number of hierarchical levels of said XML
3 document into a smaller number of hierarchical levels of said relational database.

1 12. (Previously Presented) The method of claim 1, wherein said mapping scheme
2 includes instructions on how to expand a number of hierarchical levels of said XML
3 document to a greater number of hierarchical levels of said relational database.

1 13-16. (Canceled)

1 17. (Previously Presented) A computer-readable storage medium storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 1.

1 18-19. (Canceled)

1 20. (Previously Presented) A computer-readable storage medium storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 4.

1 21. (Previously Presented) A computer-readable storage medium storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 5.

1 22. (Previously Presented) A computer-readable storage medium storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 6.

1 23. (Previously Presented) A computer-readable storage medium storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 7.

1 24. (Previously Presented) A computer-readable storage medium storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 8.

1 25. (Previously Presented) A computer-readable storage medium storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 9.

1 26. (Previously Presented) A computer-readable storage medium storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 10.

1 27. (Previously Presented) A computer-readable storage medium storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 11.

1 28. (Previously Presented) A computer-readable storage medium storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 12.

1 29-32. (Canceled)

1 33. (Previously Presented) The method of claim 1, wherein:
2 a plurality of attributes of said XML document are related to each other according to
3 a first hierarchy that includes multiple hierarchical levels;
4 a plurality of attributes of said relational database are related to each other according
5 to a second hierarchy that includes multiple hierarchical levels; and
6 said commands establish, in said mapping, that a particular hierarchical level of said
7 XML document is mapped to a particular hierarchical level of said relational
8 database, wherein said particular hierarchical level of said XML document is
9 at a different depth, within said first hierarchy, than the depth of said
10 particular hierarchal level of said relational database within said second
11 hierarchy.

1 34. (Previously Presented) The method of claim 1, wherein said single
2 transformation is performed by executing commands defined in a programming
3 language that supports operations to fetch said XML document directly and store said
4 XML document directly into said relational database.

- 1 35. (Previously Presented) The method of claim 1, wherein:
2 said mapping scheme includes instructions which define that operations included in
3 said single transformation are grouped to represent a transaction; and
4 using said mapping scheme to perform said single transformation further comprises
5 performing said operations in said transaction.
- 1 36. (Previously Presented) A computer-readable storage medium storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 33.
- 1 37. (Previously Presented) A computer-readable storage medium storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 34.
- 1 38. (Previously Presented) A computer-readable storage medium storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 35.
- 1 39. (Previously Presented) The method of claim 1, wherein using said mapping
2 scheme to perform said single transformation comprises:
3 processing a first XML element of said XML document to move said first XML
4 element from said XML document to said relational database; and
5 after processing of said first XML element is completed, processing a second XML
6 element of said XML document to move said second XML element from said
7 XML document to said relational database, wherein said second XML
8 element is different from said first XML element.
- 1 40. (Previously Presented) A computer-readable storage medium storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 39.